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DEPARTMENT OF NATURAL RESOURCES

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September 12, 2011

Mark Reynolds
Great Salt Lake Minerals Corporation
765 North 10500 West
Ogden, Utah 84404

Subject: Second Review of Consolidated Notice of Intention to Commence Large Mining Operations, Great Salt Lake Minerals Corporation, GSL Mine, M/057/0002, Weber County, Utah

Dear Mr. Reynolds:

The Division of Oil, Gas and Mining has completed a review of your response to our initial review of the consolidated Notice of Intention to Commence Large Mining Operations (NOI) for the GSL Mine. As you review our comments below, you will note that many of them were not addressed from our initial review. Our understanding is that this submittal was to consolidate all previous amendments/revisions into a single, comprehensive document that would be the basis for future amendments and revisions. While your operations are permitted, the review comments identify areas of the consolidated NOI that need to be addressed to bring the plan up to standard. These issues will need to be resolved prior to approval of future amendments/revisions.

The comments are listed under the applicable Minerals Rule heading; please format your response in a similar fashion. Please address only those items requested in the attached technical review by sending replacement pages of the original mining notice using redline and strikeout text. After the notice is determined technically complete, the Division will ask that you submit two clean copies of the complete and corrected plan. These will be stamped approved, and one copy will be returned for your records.

If you have any questions about the review or this process, please contact me at 801-538-5261 or Lynn Kunzler, at 801-538-5310. Thank you for your cooperation in completing this permitting action.

Sincerely,

Paul B. Baker
Minerals Program Manager

PBB:lk:eb
Attachment: Review
cc: Forestry, Fire and State Lands
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**INITIAL REVIEW OF NOTICE OF INTENTION
 TO COMMENCE LARGE MINING OPERATIONS
 Great Salt Lake Minerals, Corporation
 GSL Mine**

**M/057/0002
 September 12, 2011**

NOTE: Comments below in *Italics* are from the initial review. Underlined comments are for the March 28, 2011, submittal.

General Comments:

Comment #	Sheet/Page/Map/Table #	Comments
1	Page 15	<i>A general comment regarding maps: All maps need to have a legend, scale, and north arrow. Maps of facility areas need to be of sufficient scale to measure the size of facilities, buildings, etc. Maps need to show all areas being affected or utilized by GSL. Reclamation maps need to identify areas that will receive different reclamation treatments, and identify the acreage for each treatment. A map needs to be provided that identifies the pre-1983 facilities that are part of the approved variance. There were no revised maps provided with this submittal. This comment still applies.</i>
2	Page 6	<u>At the bottom of this page the plan describes the outer dikes of the Bear River Bay as being constructed with an inner core of cement and bentonite, referring to a discussion with the Division in October 2010. During that discussion, the Division said an amendment to the NOI would be needed and approved prior to installing the core. To date, the Division has received no such amendment. This amendment needs to be submitted and approved prior to placing the cement and bentonite core in these dikes.</u>

R647-4-105 - Maps, Drawings & Photographs

General Map Comments

Comment #	Sheet/Page/Map/Table #	Comments
3	Page 13	<i>A map (or maps) is needed that identifies the various reclamation treatments will be used. This would include borrow pits, facility areas, dikes, etc., all of which have different reclamation practices, including those areas for which variances were approved (please refer to comments under R647-4-110.3). This map was not provided. Please provide this map.</i>

R647-4-106 - Operation Plan

106.3 - Estimated acreages disturbed, reclaimed, annually

Comment #	Sheet/Page/Map/Table #	Comments
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Comment #	Sheet/Page/Map/Table #	Comments
4	Page 18	<i>The table under 106.3 does not include the 185+ acres of borrow pits. Does the 500 acres for associated on-site processing facilities include ore/product stockpiles, access/haul roads, dikes, etc.? These items need to be listed separately.</i> <u>The acreage for the borrow pits has now been included, but there is still no acreage breakdown for the other facilities, stockpiles, access roads, dikes, etc. Please provide this information.</u>

106.4 - Nature of materials mined, waste and estimated tonnages

Comment #	Sheet/Page/Map/Table #	Comments
5	Page 19	<i>While it is understood that most of the materials listed do not apply to GSL, please provide a brief description as to why they do not apply. As discussed in the NOI, there are reject salts that are re-dissolved and returned to the lake. What is the estimated annual volume of this reject salt material?</i> <u>This comment was not addressed. Please provide this information.</u>

106.7 - Existing vegetation - species and amount

Comment #	Sheet/Page/Map/Table #	Comments
6	Page 20	<i>Borrow areas, facility areas, etc. had, or have vegetation. These vegetation communities need to be described. (Note: Vegetation data was included in the original NOI.)</i> <u>This comment was not addressed except that the soils description says there was 30% vegetation ground cover. Please correct this table to show the pre-mining vegetation cover.</u>

106.8 - Depth to groundwater, extent of overburden, geology

Comment #	Sheet/Page/Map/Table #	Comments
7	Page 21	<i>Please provide information on the depth to ground water, geology, wells, etc., especially as it relates to the borrow and process facility areas.</i> <u>This comment was not addressed; please provide this information.</u>

106.9 - Location & size of ore, waste, tailings, ponds

Comment #	Sheet/Page/Map/Table #	Comments
8	Page 21	<i>When salts are harvested from the evaporation ponds, they are stockpiled prior to additional processing. Please show on a map where these stockpiles are located and the estimated volume of material that is put in each stockpile.</i> <u>This section says the process does not produce ore stockpiles, yet, during past inspections, stockpiled materials have been observed. Please provide the information requested.</u>

R647-4-109 - Impact Assessment

109.1 - Impacts to surface & groundwater systems

Comment #	Sheet/Page/Map/Table #	Comments
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Comment #	Sheet/Page/Map/Table #	Comments
9	Page 21	<i>Impacts to surface and ground water systems need to be described. For example, evaporation impacts surface waters; removal of salts is an impact; flushing reject materials back to the Great Salt Lake is an impact; regrading, paving, etc., impact infiltration and drainage patterns, etc. Just stating there are no impacts to surface water and ground water does not meet the requirements of the rules. There needs to be justification for this statement as GSL has an industrial site that requires a Surface Water Pollution Protection Plan (SWPPP) filed with the Department of Environmental Quality, Division of Water Quality, Storm Water section. Please describe what measures exist to protect against contamination of surface and ground Water at the plant site and provide a copy of the SWPPP filed with State. Other aspects of the comment from the previous review also need to be addressed. TM</i>

109.2 - Impacts to threatened & endangered wildlife/habitat

Comment #	Sheet/Page/Map/Table #	Comments
10	Page 22	<i>Brine shrimp and waterfowl both utilize the Great Salt Lake and its shorelines, which have both been impacted by this operation. The NOI states that "this facility is a part of an existing salt water lake which is not conducive to habitation by waterfowl." This statement is inconsistent with the plan to have the State Division of Wildlife Resources take over the dike and pond systems. This comment has not been addressed. Please provide comments regarding impacts to wildlife resources and their habitats.</i>

109.3 - Impacts on existing soils resources

Comment #	Sheet/Page/Map/Table #	Comments
11	Page 22	<i>Soils and vegetation have been impacted by this operation. Even the mud flats are a type of soil, and adding a layer of salt is an impact. The facilities area and borrow areas had vegetation and some soil materials (may not be high quality soils or vegetation, but they still were/are impacted). The response to this comment—that no soil has been impacted—is inconsistent with the soils resources identified in the soils section. Please describe how soil and vegetation resources have been impacted by this operation.</i>

109.4 - Slope stability, erosion control, air quality, safety

Comment #	Sheet/Page/Map/Table #	Comments
12	22	<i>The statement that slopes will be 45-degrees or less is not acceptable. 45-degree slopes in borrow areas, especially if it is in unconsolidated material is too steep. These slopes should be in the order of 3h:1v. Please specify clearly the angle of the various slopes (these slopes need to be identified on a map).</i>
13	Omission	<i>Please discuss impacts due to air quality, dust control, etc. This comment was not addressed. Please provide this information.</i>

109.5 - Actions to mitigate any impacts

Comment #	Sheet/Page/Map/Table #	Comments
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Comment #	Sheet/Page/Map/Table #	Comments
14	Omission	<i>This section of the NOI needs to reference the various actions that are, or will be used to mitigate the impacts to the referenced resources. This may include, but is not limited to, actions taken for reclamation, dust control plans, storm water management plans, discharge, permits, etc.</i> <u>This comment was not addressed. Please provide this information.</u>

R647-4-110 - Reclamation Plan

110.1 - Current & post mining land use

Comment #	Sheet/Page/Map/Table #	Comments
15	Page 22	<i>Wildlife habitat/use was, is, and will continue to be a significant part of the current and post mining land use of the site. Please include this use.</i> <u>This comment was not addressed. Note, if post mining land use plans are to return the area to the natural lake bed, then all dikes will need to be removed to accomplish this. Breaching the dikes at one-mile intervals will not restore the natural lakebed. What will be the post mining land use of the borrow areas? Please provide appropriate discussion regarding the land uses prior to mining and the post mining land uses.</u>

110.2 - Roads, highwalls, slopes, drainages, pits, etc., reclaimed

Comment #	Sheet/Page/Map/Table #	Comments
16	Page 22	<i>Plans to breach dikes every mile and allow wave action to wash out and level dikes for reclamation may work for the 'in-lake' dikes in Bear River Bay, but is very questionable for dikes above the meander line of the lake. Please provide a more comprehensive reclamation plan to level dikes and roads that are above the meander line of the lake.</i> <u>This comment was not addressed. Please provide the appropriate plans to remove and reclaim dikes and roads that are above the meander line.</u>
17	Page 22	<u>The text has now been changed to eliminate rinsing to remove salts from the ponds. It now says water from the breached dikes will dissolve any naturally precipitated minerals. Because of the excess time that this is expected to take, please restore the original plan to rinse the ponds to remove excess salts and other precipitated minerals.</u>
18	Page 22	<i>While the Division will not require importing soils for borrow areas where no soils existed, fines can be amended with bio-solids or composted manure to make revegetation practical. Please plan to amend fines with up to 10 ton/acre of bio-solids or composted manure to improve revegetation success.</i> <u>This comment was not addressed. Please provide plans to amend fines and subsoils with compost or biosolids to improve reclamation success.</u>

110.3 - Description of facilities to be left (post mining use)

Comment #	Sheet/Page/Map/Table #	Comments
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Comment #	Sheet/Page/Map/Table #	Comments
19	Page 22	<p>While the Division granted a variance to leave facilities that existed in March of 1986, the variance is not automatically extended to any new facilities that were, or will be constructed after that date. While the concept to leave structures for post-mining land use is reasonable, there is no guarantee that any of the facilities will be in a condition for, or be desired for other non-mining related at some time in the future. The 1986 variance approval to leave facilities only applies to facilities that existed at that time. The current DOGM practice is to bond for all facilities, and then at the time of reclamation consider the variance to leave these structures. Therefore, it is necessary to provide reclamation plans to raze all structures constructed after 1986 and provide for reclamation/revegetation of the lands involved. Then, at the time of reclamation, if it is demonstrated that certain facilities are needed or have utility for post mining use, the Division can approve at that time to leave those facilities. Therefore, it is necessary to provide a list and description of all facilities constructed post-March 1986 and provide reclamation plans and surety for each of these facilities. Please provide a description of the structures and facilities that will be removed. Show location of these on a reclamation map. As for the plant site, refer to the previous comment above. It appears that the variance for reclamation of plant facilities was granted in 1983 rather than 1986, so only those structures that were built prior to 1983 are covered by the variance. All other structures need to have plans for reclamation and be covered by the reclamation surety. At the time of reclamation, if any of these facilities are in acceptable condition, and have utility for post mining use, the Division will consider adding them to the approved variance. While the Division recognizes the industrial park, and that certain facilities may be used for future industrial uses, even some of the pre-1983 facilities, such as salt processing facilities, are not likely to be of use. These need to be removed and reclaimed as well. Please identify on a map all current structures within the 500- acre industrial area. Describe size of the buildings and construction materials used. Identify when they were built.</p>

110.5 - Revegetation planting program

Comment #	Sheet/Page/Map/Table #	Comments
20	Page 23	<p>Reclamation of 185 acres of borrow areas, and potentially up to 1000 acres of facilities <u>is</u> more than 'minimal revegetation.' Revegetation plans must be provided, including soil replacement (for areas where soils were or can be salvaged (future disturbances), addition of reasonable amendments and/or fertilizer as needed, seedbed preparation, a seed mix which includes grasses, forbs, and shrubs that are adapted to the area(s), and seeding methods.</p> <p>This comment was not addressed. Please provide the appropriate reclamation plan details.</p>

R647-4-112 - Variance

Comment #	Sheet/Page/Map/Table #	Comments
21	Page 24	<p>As discussed above, variances approved in 1983 only apply to areas/facilities that were disturbed and described in the original variance request. It is not a blanket variance for future disturbances or facilities. Variances for these must be requested and approved separately. (Refer to comment 19 under R647-4-110.3.)</p> <p>This comment was apparently not addressed. Please refer to discussion under R647-4-110.3</p>

R647-4-113 – Surety

Comment #	Sheet/Page/Map/Table #	Comments
22	Page 24	<p><i>Please provide a breakdown of the reclamation cost estimate. Include equipment needed, volumes, unit costs, etc., for each area and phase of reclamation. Unit costs, need to be verifiable 'third-party' costs, assuming the Division would have to contract the reclamation and not necessarily what it would cost GSL to do the work.</i></p> <p><i>The Division has developed standardized bonding worksheets and requests that you use them as a basis for the surety calculation. Please contact Wayne Western at 801-538-5263 for further information.</i></p> <p><u>This comment was not addressed. The bonding forms are now available on the Division's web page at www.ogm.utah.gov</u></p>

Note: It is assumed that the appendices (cover page only in this submittal) are the same as those from the original submittal. Please note, the appropriate sections of the NOI need to reference these appendices.

The Division suggests that you schedule a meeting to discuss the comments in this review.